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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,484	05/08/2004	Edward Herbert		3483
23729	7590	09/09/2005	EXAMINER	
Edward Herbert 1 Dyer Cemetery Road Canton, CT 06019-2029			LAXTON, GARY L	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/709,484	HERBERT, EDWARD	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gary L. Laxton	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15 is/are rejected.
- 7) ☒ Claim(s) 11-14 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper.No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Herbert (US 6,121,761).

Claims 1-10 and 15; Herbert discloses a switched current power converter (figure 8) comprising a quantity m of constant current sources (141, 143, 145, 147), a quantity m of switching means (S1-S4), and an output capacitor (C2) having first and second terminals, the second terminal of the output capacitor being connected to return, the m constant current sources each having a current input that is connected to return, the m constant current sources each having a current output, the m constant current sources having equal currents, the m switching means each having a switch input (149, 151, 155, 157) that is connected to the current output of

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one of the  $m$  constant current sources, the  $m$  switching means each having a first switch output (b) that is connected to return, the  $m$  switching means each having a second switch output (a) that is connected to the first terminal of the output capacitor, the  $m$  switching means each having a first switch state in which the current from the one of the  $m$  constant current sources to which it is connected is switched to return, and the  $m$  switching means each having a second switch state in which the current from the one of the  $m$  constant current sources to which it is connected is switched to the output capacitor.

***Allowable Subject Matter***

4. Claim 11-14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Claim 11; prior art fails to disclose or suggest, inter alia, a switched current power converter having further comprising an up-down counter means and a quantity  $m$  of switch driver means, each of the  $m$  switch driver means being connected to one of the switching means for controlling the state of the  $m$  switching means, the  $m$  switch driver means being responsive to a count of the up-down counter, the up-down counter means being responsive to the first and second comparator mean such that if there is an under voltage condition of the voltage on the output capacitor, the count of the up-down counter means will increase and more of the  $m$

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switching means will be in the second switch state, and if there is an over voltage condition of the voltage on the output capacitor, the count of the up-down counter means will decrease and fewer of the switching means will be in the second switch state.

Claims 12-14; prior art fails to disclose or suggest, inter alia, a switched current power converter wherein the voltage control means comprises a first voltage reference and a resistor divider network connected to the first voltage reference so as to establish a quantity  $m$  of comparator reference voltages, a quantity  $m$  of comparator means, each of the  $m$  comparator means being responsive to the voltage on the output capacitor and to one of the  $m$  comparator reference voltages, each of the  $m$  comparator means being connected to one of the  $m$  switching means and operating the one of the  $m$  switching means such that if the voltage on the output capacitor is higher than any one of the  $m$  comparator reference voltages to which the any one of the  $m$  comparator means is responsive, then the switching means to which the any one of the  $m$  com- connected will be in the first switch state, and if the voltage on the output capacitor is lower than any one of the  $m$  comparator reference voltages to which any one of the  $m$  comparator means is responsive, then the switching means to which the any one of the  $m$  comparator means is connected will be in the second switch state.

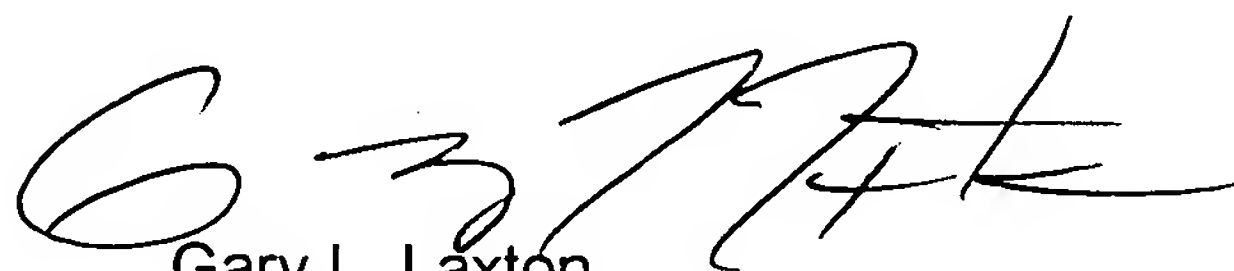
Claim 16; prior art fails to disclose or suggest, inter alia, a switched current power converter wherein the  $m$  constant current sources are  $m$  elements of a matrix transformer, each of the  $m$  elements of the matrix transformer having first and second and wherein the synchronous rectifier switching means, first internal switch state is accomplished by closing both the first and the second synchronous rectifier switching means.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gary L. Laxton  
Primary Examiner  
Art Unit 2838  
9/4/05